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EXAMINER	
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ART UNIT	PAPER NUMBER
2176	

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/713,863	<b>Applicant(s)</b> WOLSKA ET AL.	
	<b>Examiner</b> Rachna Singh	<b>Art Unit</b> 2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) 31-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>07/02/04; 06/02/06</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This action is response to communications: Response to Election Requirement filed on 04/12/06.

2. Claims 1-54 are pending. Claims 31-54 have been withdrawn. Claims 1 and 16 are independent claims.

### *Election/Restrictions*

3. Claims 31-54 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 04/12/06.

Applicant's election with traverse of claims 31-54 in the reply filed on 04/12/06 is acknowledged. The traversal is on the ground(s) that Invention I and Invention II's search classification substantially overlap. This is not found persuasive because as previously indicated claims 1-15 and 16-30 are drawn to evaluating an essay by comparing it to a model, classified in class 715, subclass 530; whereas claims 31-54 are drawn to generating the model using a machine learning tool, classified in class 706, subclass 12. The search does not overlap because **generating** a model using a

*App. did not elect these claims. Please amend to 1-30.*

machine learning tool is substantially different than **using** a model in evaluating an essay.

The requirement is still deemed proper and is therefore made FINAL.

### ***Priority***

4. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged.

### ***Drawings***

5. The drawings were received on 11/14/03. These drawings are accepted by the Examiner.

### ***Information Disclosure Statement***

6. The information disclosure statements (IDS) submitted on 07/02/04 and 06/02/06 have been considered by the examiner.

### ***Claim Rejections - 35 USC § 101***

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 1-15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

For a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. In the present case, the claimed invention uses the results of the comparison to identify writing style errors in an essay based on the comparison to a model (useful and concrete/repeatable) but does not produce a tangible result as it is simply identifying errors.

Furthermore, claim 1 appears to be an abstract idea rather than a practical application of the abstract idea. Claim 1 identifies writing style errors; however, the claim does not have a practical application.

Claims 2-15 are rejected as they depend from a rejected base claim and therefore incorporate the deficiencies of the base claim.

Therefore, claims 1-15 are rejected for being directed to non-statutory subject matter.

### ***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

10. Claims 1-4, 6-10, 12 , 15-18, 20-24, 26 and 29-30 are rejected under 35

U.S.C. 102(e) as being anticipated by Foltz et al., US 6,356,864 B1, 03/12/02.

In reference to claim 1, Foltz teaches a method for analysis and evaluation of the semantic content of a writing. See abstract. Compare to ***a method for automatically evaluating an essay to detect at least one writing style error***. Foltz discloses the following:

-Evaluating a sample text, such as an essay or document of a student. The essay is read and stored. See column 9, lines 44-50, column 10, lines 63-65, and figure 2, element 40. Compare to ***electronically receiving an essay on a computer system***.

-Creating trained matrices where a matrix is created by including unique terms used in two or more reference documents. The reference text is parsed into text objects and segments (Compare to ***text segments***). The matrix is a text object (row) by segment (column) matrix. Each object is a unique word, concept, or phrase. Each cell entry represents the number of times the text object (i) appears in text segment (j). See column 10, lines 9-18. Compare to ***assigning a feature value for each of one or more features for one or more text segments in the essay***. The segment vector represents individual reference documents. Each document is allocated a single vector

in the data matrix. A weighted value is applied to each cell. Compare to ***wherein the feature values are automatically calculated by the computer system***. The weighted cells are proportional representation of the importance of the cell's original information, for example, rare words are given more weight. See column 10, lines 18-29. The vector representation of at least one standard reference text used to create the data matrix is created. The vector representation of the standard reference text is the average of the text object vectors using each element of the text objects within the standard reference text. This is computed as the average of the sum of each element of the text object vectors in the corresponding document row in matrix DS. Similarly, a vector representation of the un-graded student essay is also generated. It is the average of the vector elements contained in the un-graded student essay. See column 10, lines 63-67 and column 11, 1-29. Compare to ***"storing the feature values for the one or more text segments on a data storage device accessible by the computer system"***.

-Comparing a student's essay, the un-graded sample text, to a standard reference text, a pre-graded text. See column 9, lines 40-67. Computing similarities between the pseudo-object vector representation of the un-graded student essay and the vector representation of the pre-graded essay. See column 12, lines 28-67. Compare to ***"comparing the feature values fore ach one or more text segments with a model configured to identify at least one writing style error"***. The pre-graded or standard reference text is text that has either been manually typed by a user (i.e. human) or

recited into a speech-to-text translator by a user (i.e. human). See column 9, lines 63-67 and column 10, lines 1-6. Compare to ***“wherein the model is based on at least one human evaluated essay”***.

-Assigning a grade to the un-graded student essay based on the computing of similarities between the pseudo-object vector representation of the un-graded student essay and the vector representation of the pre-graded essay. See column 12, lines 28-67. Determining a degree of similarity between the two documents in order to assign a grade to the essay entails determining the errors. See columns 13-14. Compare to ***“using the results of the comparison to the model to identify writing style errors in the essay”***.

In reference to claim 2, Foltz teaches creating trained matrices where a matrix is created by including unique terms used in two ore more reference documents. The reference text is parsed into text objects and segments. The matrix is a text object (row) by segment (column) matrix. Each object is a unique word, concept, or phrase. Each cell entry represents the number of times the text object (i) appears in text segment (j). Compare to ***“repetitive use of word”***. See column 10, lines 9-18. Foltz's system computes similarities between the pseudo-object vector representation of the un-graded student essay and the vector representation of the pre-graded essay. See column 12, lines 28-67. This entails determining similarities about the frequency of a text object in a text segment. This also provides diagnostic information about the



subject-matter present or lacking in the un-graded essay. See column 12, lines 54-67 and column 13, lines 1-2. Compare to ***“wherein the writing style error is the overly repetitive use of one or more text segments”***

In reference to claim 3, Foltz teaches the reference text is parsed into text objects and segments. Each object is a unique word, concept, or phrase. See column 10, lines 9-18.

In reference to claim 4, Foltz’s system computes similarities between the pseudo-object vector representation of the un-graded student essay and the vector representation of the pre-graded essay. See column 12, lines 28-67. This entails determining similarities about the frequency of a text object in a text segment. This also provides diagnostic information about the subject-matter present or lacking in the un-graded essay. See column 12, lines 54-67 and column 13, lines 1-2. Compare to ***“presence or absence of features associated with each word in the essay”***.

In reference to claim 6, Foltz teaches creating trained matrices where a matrix is created by including unique terms used in two ore more reference documents. The reference text is parsed into text objects and segments. The matrix is a text object (row) by segment (column) matrix. Each object is a unique word, concept, or phrase. Each cell entry represents the number of times the text object (i) appears in text segment (j). Compare to ***“repetitive use of word”***. See column 10, lines 9-18. Foltz

teaches each cell value for the text object that is vector element, is summed over the entire row in the semantic-space matrix. This is the average of the vector elements the un-graded essay contains. See column 11, lines 8-17.

In reference to claim 7, Foltz teaches creating trained matrices where a matrix is created by including unique terms used in two or more reference documents. The reference text is parsed into text objects and segments. The matrix is a text object (row) by segment (column) matrix. Each object is a unique word, concept, or phrase. Each cell entry represents the number of times the text object (i) appears in text segment (j). See column 10, lines 9-18. Foltz teaches each cell value for the text object that is vector element, is summed over the entire row in the semantic-space matrix. This is the average of the vector elements the un-graded essay contains. See column 11, lines 8-17. Compare to ***“ratio of evaluated text segment occurrences in the essay to the total number of text segments in the essay”***.

In reference to claim 8, Foltz teaches each cell value for the text object that is vector element, is summed over the entire row in the semantic-space matrix. This is the average of the vector elements the un-graded essay contains. See column 11, lines 8-17. Foltz further discloses comparing a vector for each sentence wherein each sentence is compared to the following sentence within the same paragraph or next paragraph. See column 14, lines 60-67. Compare to ***“the average, over all***

***paragraphs of the essay, of the ratio of evaluated text segment occurrences in a paragraph of the essay to the total number of text segments in the paragraph”***

In reference to claim 9, Foltz teaches each cell value for the text object that is vector element, is summed over the entire row in the semantic-space matrix. This is the average of the vector elements the un-graded essay contains. See column 11, lines 8-17. Foltz further discloses comparing a vector for each sentence wherein each sentence is compared to the following sentence within the same paragraph or next paragraph. See column 14, lines 60-67.

In reference to claim 10, Foltz teaches in column 1, lines 40-50, that the related prior art teaches calculating sentence length.

In reference to claim 12, Foltz teaches that word proximity in a document helps determine the frequency of words and semantic coherence of an essay. See column 1, lines 19-64. The proximity of words and frequency of words help determine the importance of the word and also the relevance of subject matter. The proximity of a word is defined as the distance between two words. Compare to ***“interval distance between consecutive text segment occurrences”***. Foltz teaches using word proximity between consecutive word occurrences in order to determine if a word is being used excessively in an essay and help minimize repetitiveness while improving coherency of the essay. See column 1.

In reference to claim 15, Foltz teaches Latent Semantic Analysis (LSA) which provides a trained set of matrices from which all texts can be compared for quality, quantity, and relevance of subject matter. See column 2, lines 20-65. The Latent Semantic Analysis is a trained learning tool because it provides a “trained” set of matrices based on a previously evaluated essay. A machine learning application is based on at least one evaluated essay thus Foltz’s LSA is a machine learning tool.

In reference to claim 16, Foltz teaches a method for analysis and evaluation of the semantic content of a writing. See abstract. Compare to ***a system for automatically evaluating an essay to detect at least one writing style error***. Foltz discloses the following:

-Evaluating a sample text, such as an essay or document of a student. The essay is read and stored. See column 9, lines 44-50, column 10, lines 63-65, and figure 2, element 40. Compare to ***a computer system configured to electronically receive an essay***.

-Creating trained matrices where a matrix is created by including unique terms used in two or more reference documents. The reference text is parsed into text objects and segments (Compare to ***text segments***). The matrix is a text object (row) by segment (column) matrix. Each object is a unique word, concept, or phrase. Each cell entry represents the number of times the text object (i) appears in text segment (j). See

column 10, lines 9-18. Compare to ***a feature extractor configured to assign a feature value for each of one or more features for one or more text segments in the essay.*** The segment vector represents individual reference documents. Each document is allocated a single vector in the data matrix. A weighted value is applied to each cell. The weighted cells are proportional representation of the importance of the cell's original information, for example, rare words are given more weight. See column 10, lines 18-29. The vector representation of at least one standard reference text used to create the data matrix is created. The vector representation of the standard reference text is the average of the text object vectors using each element of the text objects within the standard reference text. This is computed as the average of the sum of each element of the text object vectors in the corresponding document row in matrix DS. Similarly, a vector representation of the un-graded student essay is also generated. It is the average of the vector elements contained in the un-graded student essay. See column 10, lines 63-67 and column 11, 1-29. Compare to ***a data storage device, connected to a computer system, configured to store the feature values for the one or more text segments.***

-Comparing a student's essay, the un-graded sample text, to a standard reference text, a pre-graded text. See column 9, lines 40-67. Computing similarities between the pseudo-object vector representation of the un-graded student essay and the vector representation of the pre-graded essay. See column 12, lines 28-67. Compare to ***"a feature analyzer configured to evaluate the essay for at least one writing style***

***error by comparing the feature values for each of one or more text segments with a model.*** The pre-graded or standard reference text is text that has either been manually typed by a user (i.e. human) or recited into a speech-to-text translator by a user (i.e. human). See column 9, lines 63-67 and column 10, lines 1-6.

-Assigning a grade to the un-graded student essay based on the computing of similarities between the pseudo-object vector representation of the un-graded student essay and the vector representation of the pre-graded essay. See column 12, lines 28-67. Determining a degree of similarity between the two documents in order to assign a grade to the essay entails determining the errors. See columns 13-14. Outputting the graded essay. Compare to ***a display for presenting the evaluated essay.***

In reference to claim 17, Foltz teaches creating trained matrices where a matrix is created by including unique terms used in two or more reference documents. The reference text is parsed into text objects and segments. The matrix is a text object (row) by segment (column) matrix. Each object is a unique word, concept, or phrase. Each cell entry represents the number of times the text object (i) appears in text segment (j). Compare to ***“repetitive use of word”***. See column 10, lines 9-18. Foltz’s system computes similarities between the pseudo-object vector representation of the un-graded student essay and the vector representation of the pre-graded essay. See column 12, lines 28-67. This entails determining similarities about the frequency of a text object in a text segment. This also provides diagnostic information about the

subject-matter present or lacking in the un-graded essay. See column 12, lines 54-67 and column 13, lines 1-2. Compare to ***“wherein the writing style error is the overly repetitive use of one or more text segments”***

In reference to claim 18, Foltz teaches the reference text is parsed into text objects and segments. Each object is a unique word, concept, or phrase. See column 10, lines 9-18.

In reference to claim 20, Foltz teaches creating trained matrices where a matrix is created by including unique terms used in two or more reference documents. The reference text is parsed into text objects and segments. The matrix is a text object (row) by segment (column) matrix. Each object is a unique word, concept, or phrase. Each cell entry represents the number of times the text object (i) appears in text segment (j). Compare to ***“repetitive use of word”***. See column 10, lines 9-18. Foltz teaches each cell value for the text object that is vector element, is summed over the entire row in the semantic-space matrix. This is the average of the vector elements the un-graded essay contains. See column 11, lines 8-17.

In reference to claim 21, Foltz teaches creating trained matrices where a matrix is created by including unique terms used in two or more reference documents. The reference text is parsed into text objects and segments. The matrix is a text object (row) by segment (column) matrix. Each object is a unique word, concept, or phrase.

Each cell entry represents the number of times the text object (i) appears in text segment (j). See column 10, lines 9-18. Foltz teaches each cell value for the text object that is vector element, is summed over the entire row in the semantic-space matrix. This is the average of the vector elements the un-graded essay contains. See column 11, lines 8-17. Compare to ***“ratio of evaluated text segment occurrences in the essay to the total number of text segments in the essay”***.

In reference to claim 22, Foltz teaches each cell value for the text object that is vector element, is summed over the entire row in the semantic-space matrix. This is the average of the vector elements the un-graded essay contains. See column 11, lines 8-17. Foltz further discloses comparing a vector for each sentence wherein each sentence is compared to the following sentence within the same paragraph or next paragraph. See column 14, lines 60-67. Compare to ***“the average, over all paragraphs of the essay, of the ratio of evaluated text segment occurrences in a paragraph of the essay to the total number of text segments in the paragraph”***

In reference to claim 23, Foltz teaches each cell value for the text object that is vector element, is summed over the entire row in the semantic-space matrix. This is the average of the vector elements the un-graded essay contains. See column 11, lines 8-17. Foltz further discloses comparing a vector for each sentence wherein each sentence is compared to the following sentence within the same paragraph or next paragraph. See column 14, lines 60-67.



In reference to claim 24, Foltz teaches in column 1, lines 40-50, that the related prior art teaches calculating sentence length.

In reference to claim 26, Foltz teaches that word proximity in a document helps determine the frequency of words and semantic coherence of an essay. See column 1, lines 19-64. The proximity of words and frequency of words help determine the importance of the word and also the relevance of subject matter. The proximity of a word is defined as the distance between two words. Compare to ***“interval distance between consecutive text segment occurrences”***. Foltz teaches using word proximity between consecutive word occurrences in order to determine if a word is being used excessively in an essay and help minimize repetitiveness while improving coherency of the essay. See column 1.

In reference to claim 29, Foltz teaches Latent Semantic Analysis (LSA) which provides a trained set of matrices from which all texts can be compared for quality, quantity, and relevance of subject matter. See column 2, lines 20-65.

In reference to claim 30, Foltz teaches the pre-graded or standard reference text is text that has either been manually typed by a user (i.e. human) or recited into a speech-to-text translator by a user (i.e. human). See column 9, lines 63-67 and column 10, lines 1-6.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 13-14 and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foltz et al., US 6,356,864 B1, 03/12/02.

In reference to claims 13-14 and 27-28, Foltz teaches that word proximity in a document helps determine the frequency of words and semantic coherence of an essay. See column 1, lines 19-64. The proximity of words and frequency of words help determine the importance of the word and also the relevance of subject matter. The proximity of a word is defined as the distance between two words or an interval distance. Foltz teaches using word proximity between consecutive word occurrences in order to determine if a word is being used excessively in an essay and help minimize repetitiveness while improving coherency of the essay. See column 1.

“Using word proximity” as taught by Foltz is analogous to determining the number of intervening words or characters because word proximity is the distance between two words or characters and is determined by somehow calculating the distance between

the number of intervening words. Thus it would have been obvious to a person of ordinary skill in the art at the time of the invention to interpret Foltz's teachings of determining word proximity as entailing the calculation of the distance between intervening words.

13. Claims 5, 11, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foltz et al., US 6,356,864 B1, 03/12/02 in view of Mitchell, US 2003/0149692 A1, 08/07/03.

In reference to claim 5, Foltz does not expressly teach function words of the essay are not considered by the computer system in determining feature values.

Mitchell teaches the electronic assessment of free-form text against a standard for such text in which templates prepared from the standard are compared with semantically-syntactically tagged form of the free-form text and an output assessment is derived from the comparison. Mitchell teaches extracting propositions, adjectives, etc from the mark scheme answers to reduce variant forms of these words to their root form. The intent is to help simplify the word recognition and sentence analysis process by reducing the number of variations of the words. Thus certain words of the essay are not considered by the assessment tool since they are altered to the reduce variant form.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to not consider certain words when determining feature values to simplify

the word recognition and sentence analysis process by reducing the number of variations of the words.

In reference to claims 11 and 25, Foltz does not expressly teach the feature values comprise a value indicated whether a text segment includes a pronoun.

Mitchell teaches parsing a free-form text answer into constituent parts including nouns, verbs, adjectives, and proper names. See page 1, paragraphs [0003] and [0015]. The nouns are pattern matched in the student answer against nouns in the mark scheme. See figure 7.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Mitchell's indication of whether a noun is present as a feature of an essay in the system of Foltz in order to take into account potential variations in writing styles by matching potential variations of the pronoun to a word in the student answer/essay.

14. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Foltz et al., US 6,356,864 B1, 03/12/02 in view of Spragins, US 2003/0023642 A1, 01/30/03 (filed 07/30/01).

In reference to claim 19, Foltz does not teach annotating the essay to identify one or more writing style errors.

Spragins teaches a means for inserting editorial markings and comments into an electronic writing to indicate errors in the writing. See abstract, figure 8, and pages 1-3.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to include Spragin's teachings of annotating errors in a written document into the system of Foltz because it provides a visual indication to a user of an error present in the document and it was desirable at the time of the invention to insert markings in an electronic writing at specified locations to indicate that the area identified needed improvements due to errors. See page 1, paragraphs [0001] and [0011].

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 2006/0078863 A1	Coleman et al.
US 2005/0250087 A1	Driscoll et al.
US 2005/0143971 A1	Burstein et al.
US 2003/0008270 A1	Fleishman
US 2002/0110798 A1	Kucinski et al.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rachna Singh whose telephone number is 571-272-4099. The examiner can normally be reached on M-F (8:30AM-6:00PM). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon can be reached on 571-272-4136. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RS  
06/06/06

  
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